

**ASA-04 Signal ,Train Control and VMS - Prebid Queries and Responses- 2nd lot  
03 February 2022**

| SN | Part                    | Section                   | Clause    | Original Bid condition  | Bidder's query  | CMRL Response   |
|----|-------------------------|---------------------------|-----------|---|---|---|
| 1  | Part 2<br>(Addendum 01) | PS-App- 2Q                | 3.6       | <p align="center"><b>Revised bid condition</b></p> <p>The unused equipments, I/O points etc, which are planned for 6 car operation, which will not be put into initial use shall be inhibited in software or in hardware manner for the timebeing. These unused equipments shall not initiate any alarms or failures and doesn't warrant any attention otherthan the general scheduled maintenance for all equipments.</p> <p>All the interfacing communication telegrams between various sub-systems of signalling and between other interfacing systems shall be designed for 6 car requirement initially itself. This shall cater for 3 car operation currently.</p> <p>All indoor equipments, which requires an augmentation for supporting 6 car operation shall be installed and commissioned</p> <p>All outdoor equipments, which doesn't require a replacement/reposition/augmentation at the time of 6 car introduction shall be designed for 3 car</p> <p>The Data communication system (DCS): telegrams, bandwidth calculation etc shall be designed for catering 6 car consist also.</p> <p>The supply installation and commissioning of additional outdoor equipments, and its cabling, required for a 6 car operation, which can be installed and commissioned without affecting 3 car operation is excluded from the scope of this contract. However the space proofing of the same shall be part of the design within the contract.</p> | <p>Based on the mentioned clause, we understand that the indoor material and the interface equipment or I/O shall be considered as per 6 car. For outdoor, all equipment shall be considered as per 3 car.</p> <p>Please confirm our understanding.</p>   | <p>All the indoor equipments, I/O etc shall be for 6 car trains. For outdoor equipments, those which may require augmentation, if designed for 3 car today, at the introduction of 6 car, needs to be designed for 6 car trains now itself ( eg: Axle counter sections length for platform track, reversals, overlaps etc). Those outdoor equipments which can be added on alater stage without disturbing the equipments for 3 car train operation, can be added later ;those equipments and its cabling is outside the scope of work of this contract. However Refer Corrigendum 04 ( Corrigendum to Addendum 01) for better clarity.</p> |
| 2  | Part 2                  | PS-App- 2R                |           | <p>Table as in Appendix 2R</p>  | <p>Based on the requirement, Contractual spares asked seems to be on higher side. Hence, request you to optimise the spares.</p> <p>For example: 20% of point machine spares for Depot will be high number of point machine. Similarly 10% of outdoor becons result is very high quantity of spares etc.</p> <p>These are few examples, Hence we request to optimise the spares</p> | <p>Refer Addednum 02 for changes in the Apendix 2R</p>  |
| 3  | Part 2<br>(Addendum 01) | Particular Specifications | 3.2.1.2.1 | <p>LCD video wall for Signalling, VMS (CCTV videos of Train-borne), Power SCADA and CCTV system (CCTV videos of stations/tracks/depot) at OCC,BOCC and other locations</p>  | <p>As per addendum, Videowall need to be provided for power SCADA, CCTV, VMS etc.</p> <p>There are number of cubes defined in tender and we are considering those number of cubes only Videowall.</p> <p>Please confirm our understanding.</p>  | <p>The video wall dimensions ( &amp; number of LCD panels) are definitive. The contractor shall match with the dimensions with no major deviation.</p>  |
| 4  | Part 2<br>(Addendum 01) | Particular Specifications | 5.8.11.13 | <p>Route indicators shall be LED matrix type ( two letter/digit) capable of displaying –<br/>First letter/digit<br/>• M – For Main Line<br/>• L – For Left diversion<br/>• R-For Right diversion<br/>• S- For Siding.<br/>• D- For Depot<br/>Second letter<br/>Numerical value corresponding to first, second or third diversion</p>  | <p>We want to understand what benefit will it bring for dual route indicator.</p>   | <p>Bid condition ( as in Addeundum 01) prevails</p>   |

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| 5  | Part 2<br>(Addendum 01) | Particular Specifications | 13.7      | <p>Transfer of Technical know-how for installation, Testing, Commissioning, Repair and Maintenance</p> <p>13.7.1 Contractor shall submit the detailed plan of transfer of technical knowhow within 60 days of the commencement date of works.</p> <p>13.7.2 As part of Transfer of Technical know-how, the contractor shall set up of a fully equipped LAB/Repair Centre at a suitable place provided by the Employer. All furniture and equipments needed for this shall be supplied by the Contractor.</p> <p>13.7.3 The contractor shall provide Required Jigs and testing tools shall be provided in LAB/Repair Centre.</p> <p>13.7.4 The contractor shall propose the furniture and the jigs, testing tools/instruments etc. for the NoNO of Engineer.</p> <p>13.7.5 Lab/Repair Centre can share the testing facility with the maintenance simulator ( offline integration test platform). The Lab/Repair center shall have all provisions for the replacements of LLRUs for both indoor cabinets as well as out-door equipments. . The facility shall have provision for replacement of components of the point machines and test it for its parameters before deploying it in the site ( eg: stroke, force parameters, current, insulation resistance etc etc). Rectification of components of PCBs is excluded from the scope of this lab. For all other LLRUs, the repair centre shall have the required test jigs and instruments/tools, to test the concerned equipment functionality for all requirements, before its recommissioning in service.</p> <p>13.7.6 This Facility can also be availed by the Contractor with prior permission of the Engineer or the Employer for repair and maintenance of any cards/parts concerning the project during its association with project.</p> <p>13.7.7 The Employer will nominate some of his personnel for</p> <p><del>Transfer of Technical knowhow for various sub systems. These</del></p> | <p>Based on addendum, Lab and repair centre has been asked. For CBTC equipment or IXL equipment, specialised facility is required within a closed environment, which may also vary from equipment to equipment also. Hence, request you to remove the same.</p>              | <p>Bid condition ( as in Addeendum 01) prevails</p>  |
| 6  | Part 2<br>(Addendum 01) | Particular Specifications | 5.20.15.8 | <p>The STC Contractor shall design the under-floor cable trays for OCC, BOCC, DCCs and SCCs. The STC contractor shall identify the requirement of all other system contractors in the Interface forum and design the common underfloor cable trays (Data and Power) and install. The EMC management plan shall be adhered to avoid EMC related issues. The STC contractor shall design the Access requirements of these cable trays for future and coordinate with Civil contractors to provide easy access in the nominated locations to the cable trays.”</p>   | <p>Based on the clause, we got to understand that cable trays need to be designed and install by STC contractor.</p> <p>Please clarify who will supply the cable trays.<br/>Secondly, we would request you to kindly keep this under scope of the civil contractor only.</p> | <p>The underfloor cable trays for the said control rooms and signalling equipment room needs to be designed, supplied, installed by the signalling contractor. These cable trays ( power and Data) will be used by all Interfacing contractors ( in control rooms). Hence their requirement also needs to be captured by the STC contractor.</p> <p>In this regard Refer the Corrigendum 04 ( Corrigendum to Addendum 01).</p> |

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| 7  | Part 2<br>(Addendum 01) | Particular Specifications | 5.8.13.7 | Interlocking VDU workstations shall be provided at the Station Control Room one in each unit block of traffic controller control ( every 5 km approximate). which shall be used as a backup in case of failure of the ATS subsystem. The ACR of this workstation shall be for the area under the unit block of ACR which it belongs to  | We recommend that the VDU workstation shall only be installed at station where interlocking is kept.   | Interlocking VDU shall be provided in stations at an interval of 5 kms approximately. These can be the crossover stations also.   |
| 8  | Part 2<br>(Addendum 01) | PS-Appendix 2D            |          | Traffic Controllers Controller position:9 Screens per controller: 1<br>Passenger information controller: controller position:2 Screens per controller: 1<br>Asst. Chief controller: Controller position:3 Screens per controller: 1<br>Chief controller: Controller position: 1 Screens per controller: 1<br>Rolling stock controller: Controller position: 3 Screen per controller: 1<br># work stations required for powering the video wall shall be extra from above.   | Why these workstation has been asked under appendix 2D when the same asked for appendix 2c. Appendix 2D is for VMS workstations.   | Appendix 2 C refers to the controller positions for which ATS workstation and Interlocking VDU to be provided. Appendix 2D refers to the controller positions for which VMS workstation to be provided. However Refer Corrigendum 4 for change in the traffic controller work stations                    |
| 9  | Part 2                  | Particular Specifications | 5.4      | <p><b>5.4 Effects of equipment failure</b></p> <p>5.4.1 Any single equipment failure or cable link failure shall not cause any effect on the UTO operation of trains including accurate station stopping, docking, automated Rolling stock door- PSD operation, VMS system working, timetable operation, in full capacity of headway or sectional speed on any part of the mainlines or the automated areas of the Depot. This includes the failures of any equipment (except certain type of failures of Point machine), cable link, relays, antennas, power supply equipments etc in the control rooms, equipment rooms, track side and train borne. Failures as an outcome of cascading effect of any other single equipment failure (dependent failure) shall also not cause any effect on the UTO operation of train in full capacity.</p> | We understand that system shall be redundant at OCC and BOCC in order to cater any failure and one workstation each shall be provided at station area for CCTV.  | The effect of failure of a work station in the station control room shall only affect the functionality of the work station of displaying the information for the station controller, as well as control by the station controller.   |
| 10 | Part 2<br>(Addendum 01) | PS-App 2P-12              | 4.1.22   | "The CBTC radio shall have similar level of redundancy that of the rolling stock. For non- CBTC radio and its switch, redundancy is not required. Currently, non-CBTC radio will be used for centralised diagnostic data/log collection of Signalling. The future provisions of virtual networks making use of the non-CBTC bandwidth shall be provided (similar to that of the rolling stock) for operator to utilise for various future purposes."  | This requirement in newly added appendix regarding the DCS redundancy is in contradiction with PS. 5.23.9.7 "Redundant radio units shall be installed in wayside and on the train for both the radios. The radio units of CBTC and non-CBTC radio shall be different. Network switches and associated equipments inside the train also shall be completely segregated between these two radios." | The clauses of DCS chapter of the PS is in the perspective of a train. For a train, redundancy is required for the CBTC radio as well as non-CBTC radio. Appendix 2P-12 is pertaining to the OMV/CMV. For OMV, the CBTC radio requires a redundancy. But for non-CBTC radio, redundancy is not mandatory. |

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| 11 | Part 2<br>(Addendum 01) | Particular Specifications | 5.23.10.2 | The data transmission from wayside to OCC and other locations for CBTC radio data traffic and non-CBTC radio data may use totally seperated switching network which includes separate fibre cores, switches, routers, access points etc. | Please clarify is the architecture support, for CBTC and non-CBTC radio data can use the same switching network.   | Bid condition ( as in Addeundum 01) prevails  |
| 12 | Part 2<br>(Addendum 01) | General                   |           |  | Number of OMV are three but and its length, characteristics are not defined.<br>Our understanding is the OMV will be from the same vendor and the characteristics shall be same. | Number of OMVs: 03<br>Approximate length of OMV: 18 to 23m<br>No of type of vehicles: 01<br>No of packages for procurement of OMV: 01   |
| 13 | Part 2                  | General Specifications    |           |  | Based on our understanding, all the design related drawings shall be build in 2D AutoCAD.  | 3D made in BIM and 2D CAD is extracted from 3D Model  |
| 14 | Part 2<br>(Addendum 01) | Particular Specifications |           |  | In order to prepare estimate for Ergonomic Study, Layout for DCC and SCC is required.  | The number of controllers, approximate video wall sizes are already provided. The desks ( consoles) shall be very similar to that proposed for OCC. The bidder shall make reasonable assumptions for further details. |

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| 15 | Part 2<br>(Addendum 01) | Particular<br>Specifications | 14.5.9.2 | <p>Software source files and documentation and tools for design, development and modification</p> <p>14.5.9.2 Any software item delivered in escrow pursuant to Paragraph above shall not be translated or modified by the Employer without the prior consent of the Contractor unless:</p> <p>a) The owner of the software becomes insolvent or has a receiving order made against them or makes an arrangement or assignment or composition with or in favour of its creditors (including the appointment of a committee of inspection) or goes into liquidation or commences to be wound up or has a receiver, liquidator, trustee or similar officer appointed over all or any part of its undertaking or assets or if</p> | <p>We request further modification to the amended clause as highlighted below:</p> <p>Software source files and documentation and tools for design, development and modification.</p> <p>14.5.9.2 Any software item delivered in escrow pursuant to Paragraph above shall not be translated, or modified and/ or transferred and/ or reproduced by the Employer without the prior consent of the Contractor unless:</p> <p>a) The owner of the software becomes insolvent or has a receiving order made against them or makes an arrangement or assignment or composition with or in favour of its creditors (including the appointment of a committee of inspection) or goes into liquidation or commences to be wound up or has a receiver, liquidator, trustee or similar officer appointed over all or any part of its undertaking or assets or if distress, execution or attachment is levied on, or if another party takes possession of, any of its assets or any proceeding or step is taken which has an effect comparable to the foregoing in any relevant jurisdiction; or</p> <p>b) The owner of the software ceases to trade; or</p> | Refer Corrigendum 04 ( Corrigendum to Addendum 01) |

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|    |      |         |        | <p>distress,execution or attachment is levied on, or if another party takes possession of, any of its assets or any proceeding or step is taken which has an effect comparable to the foregoing in any relevant jurisdiction; or</p> <p>b) The owner of the software ceases to trade; or</p> <p>c) The owner of the software assigns copyright in the software and the Contractor fails within 60 days of such assignment to procure in favour of the Employer, a licence from the new owner in the same terms as that required by the Contract; or</p> <p>d) The Contractor is in breach of any of his obligations under the Contract.</p> | <p>c) The owner of the software assigns copyright in the software and the Contractor fails within 60 days of such assignment to procure in favour of the Employer, a licence from the new owner in the same terms as that required by the Contract; or</p> <p>d) The Contractor is in breach of any of his obligations under the Contract.</p> <p>Should Source Code be released, the usage shall be limited in connection with the performance of the Project and the connected specific geographical area of Chennai, India.</p> <p>In case of any Source Code access or disclosure, there will be no transfer of any property rights to the Party to which Source Code access or disclosure is given.</p> <p>i.to ensure neutrality and impartiality of escrow agent appointed</p> <p>ii.to ensure safety of the system</p> <p>iii.to ensure confidentiality of the documents and system which cannot be disclosed to competitors.</p> <p>iv.this is in line with standard business practices followed worldwide.</p> |               |



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| 16 | Part 3 | General Conditions | 1.10.  | <p>As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.</p> <p>The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:</p> <p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the</p> | <p>We request CMRL to kindly accept the following modifications to clause 1.10 of GCC as highlighted below:</p> <p>As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.</p> <p>The Contractor shall be deemed (by signing the Contract) to give to the Employer a non-terminable, <b>non-transferable, non-reproducible</b>, non-exclusive royalty-free licence to , use and communicate the Contractor's Documents. This licence shall:</p> <p>(a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,</p> <p>(b) entitle any person in proper possession of the relevant part of the Works to , use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and</p> <p>(c) in the case of Contractor's Documents which are in the form</p> | Bid condition Prevails |

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|    |      |         |        | <p>Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and<br/>(c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.<br/>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.</p> | <p>of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.</p> <p>The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Employer for purposes other than those permitted under this Sub-Clause.</p> <p><b>The said rights shall be limited to the municipal limits of Chennai, India.</b></p> <p>Reasons for the proposed modifications are as follows:</p> <ul style="list-style-type: none"> <li>i.to ensure safety of the system</li> <li>ii.to ensure confidentiality of the documents and the system which cannot be disclosed to competitors.</li> <li>iii.this is in line with standard business practices followed worldwide.</li> </ul> |               |



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| 17 | Part 3 | General Conditions | 4.2    |                        | <p>We request CMRL to kindly accept the following modifications to clause 1.10 of GCC as highlighted below:</p> <p>The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of</p> | GC 4.2 conjunction with Cl. 17 of PCC (SP 4.2) shall prevail |

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|    |      |         |        | <p>The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If an amount is not stated in the Contract Data, this Sub-Clause shall not apply.</p> <p>The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by an reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer, or in another form approved by the Employer.</p> <p>The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the</p> | <p>Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by an reputable bank or financial institution selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer, or in another form approved by the Employer.</p> <p>The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.</p> <p>The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract in the event of:</p> <p>(a) failure by the Contractor to extend the validity of the Performance Security, as described in this Sub-Clause, in which event the Employer may claim the full amount (or, in the case of previous reduction(s), the full remaining amount) of the Performance Security;</p> <p>(b) failure by the Contractor to pay the Employer an amount due, as agreed or determined under Agreement or Determination or agreed or decided under Disputes and Arbitration within 42 days</p> |               |

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|    |      |         |        | <p>Performance Security until the Works have been completed and any defects have been remedied.</p> <p>The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract.</p> <p>The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.</p> <p>The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p> <p>Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.</p> | <p>after the date of the agreement or determination or decision or arbitral award (as the case may be);</p> <p>(c) failure by the Contractor to remedy a default stated in a Notice within 42 days or other time (if any) stated in the Notice;</p> <p>(d) circumstances which entitle the Employer to terminate the Contract under Termination for Contractor's Default, irrespective of whether a Notice of termination has been given; or</p> <p>(e) if the Contractor removes any defective or damaged Plant from the Site, failure by the Contractor to repair such Plant, return it to the Site, reinstall it and retest it by the date of expiry of the relevant duration stated in the Contractor's Notice (or other date agreed by the Employer).</p> <p>The Employer shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Employer was not entitled to make the claim.</p> <p>The Employer shall return the Performance Security to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p> <p>Without limitation to the provisions of the rest of this Sub-Clause, whenever the Engineer determines an addition or a reduction to the Contract Price as a result of a change in cost and/or legislation, or as a result of a Variation amounting to more than 25 percent of the portion of the Contract Price payable</p> |               |

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|    |        |                       |        |   | <p>more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Engineer's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.</p> <p>The modifications have been proposed for the following reasons:</p> <p>i.To clearly specify the grounds for encashment of performance security which are not present in tender conditions.<br/>ii.This is in line with standard business practices followed worldwide including by Indian metro customers.</p> |                   |
| 18 | Part 3 | Particular Conditions | 52     | <p>Payment of the amount due in each currency, payable from any source of finance other than the Loan Agreement such as the Employer's own funds, shall be made directly into the bank account opened by the Contractor in the name of JV as notified by the Contractor</p> | <p>Please amend the clause as follows:</p> <p>Payment of the amount due in each currency, payable from any source of finance other than the Loan Agreement such as the Employer's own funds, shall be made directly into the bank account opened by the Contractor in the name of JV as notified by the Contractor.<br/>Further, if the Bidder comprises a Consortium, separate payments in respective currencies shall be made to each Member of the Consortium based on the submission of their respective invoices through lead member. This applies for Letter of Credit payments as well.</p>       | Refer Addendum 03 |

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| 19 | Part 2               | Particular Specifications | 5.8.12.1 | The maximum number of trains that can be processed by a single wayside controller shall be between 10 to 40. This shall be ensured with signalled headway of 90 sec and shall consider all train bunching scenarios of the trains in case of any failure.   | 90-second cannot be achieved only by signaling scope. The turnback line at the terminal station will significantly affect the headway. No signaling contractor would comply with this requirement without interfacing with other contractors. | Ref is cited to the IEEE 1474.1 standard para 5.1 which says the authority shall define the headway.<br>Track alignment data and Rolling stock parameters are shared in this document.<br>Additional Information:<br>Civil Speed on diversion arm of turnouts<br>1:9 300 R: 45 kmph<br>1:9 190R: 35 kmph<br>1:7 190R: 35 kmph<br>1:7 140R: 30 kmph<br>Bidder shall do the headway calculation and do the design of signalling system accordingly to meet the headway requirement including terminl operations. |
| 20 | Part 2               | Particular Specifications | 4.9.1    | The Signalling and Train Control System shall provide a minimum designed signalled Headway of less than or equal to 90 Seconds with 30- second dwells at intermediate stations and a minimum 90 sec layover at the terminal station platforms (minimum 30-second layover when front crossover is used), The Headway calculation will include Train operation time, PSD Operation time, application and release time of service brakes etc.. For design of minimum Headway requirement calculation, 6 car consist may be used. | 90-second cannot be achieved only by signaling scope. The turnback line at the terminal station will significantly affect the headway. No signaling contractor would comply with this requirement without interfacing with other contractors. | Ref is cited to the IEEE 1474.1 standard para 5.1 which says the authority shall define the headway.<br>Track alignment data and Rolling stock parameters are shared in this document.<br>Additional Information:<br>Civil Speed on diversion arm of turnouts<br>1:9 300 R: 45 kmph<br>1:9 190R: 35 kmph<br>1:7 190R: 35 kmph<br>1:7 140R: 30 kmph<br>Bidder shall do the headway calculation and do the design of signalling system accordingly to meet the headway requirement including terminl operations. |
| 21 | Part 2 (Addendum 01) | Particular Specifications | 5.8.8.4  | PSD commands in ATP, ATO, DTO,UTO and RM mode shall be transferred between On-board ATC to PSD directly or by faster route so that response time from instance of giving command from on-board ATC to reach the PSD controller shall be less than 1000 ms. This needs to be demonstrated as a part of the Factory/System acceptance test.   | Our proven system can only achieve 1,300 ms.  | The PSD commands as in the Addendum 01, shall work in ATP,ATO,UTO,DTO and <b>RM mode</b> .<br><br>Bid condition ( as in Addeundum 01) prevails   |
| 22 | Part 2               | PS- Appendix 2P-1         | 2.4.22   | Both STC & RS Contractors to ensure that all input and output signals exchanged between rolling stock equipment and on-board signalling equipment shall be recorded and shall be available for retrieval on demand for analysis/record.   | In our proven system, our logs can be retrieved from the external recording device.   | The requirement of remote log extraction to the central maintenace and diagnostics system shall be complied for retrieval of logs as per clause 5.6.1 of PS of ASA-04 bid.   |

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| SN | Part   | Section            | Clause | Original Bid condition  | Bidder's query   | CMRL Response   |
|----|--------|--------------------|--------|---|--|---|
| 23 | Part 3 | General conditions | 20.3   | <p>If any of the following conditions apply, namely: (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of Sub-Clause 20.2 [Appointment of the Dispute Board], (b) either Party fails to nominate a member (for approval by the other Party) , or fails to approve a member nominated by the other Party, of a DB of three persons by such date, (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.</p> | <p>In compliance with FIDIC conditions, we request new addition of following highlighted portion to clause 20.3 of GCC:-</p> <p>If any of the following conditions apply, namely: (a) the Parties fail to agree upon the appointment of the sole member of the DB by the date stated in the first paragraph of Sub-Clause 20.2 [Appointment of the Dispute Board], (b) either Party fails to nominate a member (for approval by the other Party) , or fails to approve a member nominated by the other Party, of a DB of three persons by such date, (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the DB by such date, or (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, then the appointing entity or official named in the Contract Data shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the DB. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.</p> <p>20.3A (Avoidance of Disputes)<br/>The Contractor's liability to indemnify the Employer, under Sub-Clause 17.1 [Indemnities] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights]</p> | <p align="center">Bid condition Prevails.<br/>However Refer the Addendum 01 regarding Particular conditions 56</p> <p align="center"><i>([Note: The reply for this query ( SN 651 of the Prebid Queries and Responses- Lot 1) is updated here])</i></p> |



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| SN | Part   | Section        | Clause | Original Bid condition  | Bidder's query   | CMRL Response   |
|----|--------|----------------|--------|---|--|---|
|    |        |                |        |   | Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event described under sub-paragraphs (a) to (f) of Sub-Clause 17.2 [Contractor's Liability for Care of the Works] may have contributed to the said damage, loss or injury. Similarly, the Employer's liability to indemnify the Contractor, under Sub-Clause 17.1 [Indemnities by Employer] and/or under Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall be reduced proportionately to the extent that any event for which the Contractor is responsible under Sub-Clause 17.2 [Contractor's Care of the Works] may have contributed to the said damage, loss or injury. |   |
| 24 | Part 2 | Appendix 2P-12 | 4.1.1  | 4.1.1 The OMV shall be equipped with CBTC equipment with redundant ATP systems to operate in GoA 1 mode as per EN62290.   | ATP system shall be the same as we are providing for the passenger vehicle   | Bid condition prevails. Similar equipment shall be used. GoA 1 is envisaged for OMV.  |
| 25 | Part 2 | Appendix 2P-12 | 4.1.2  | 4.1.2 The ATP operation of OMV is envisaged with no other vehicle coupled into it. The coupler status shall be vitally monitored.   | What is expected from system in case of coupling, please explain.  | ATP mode shall be only available when there is no vehicle is coupled to the OMV. In case of coupled consist, RM mode operation shall be possible. |
| 26 | Part 2 | Appendix 2P-12 | 4.1.5  | 4.1.5 The Signalling system design shall provide facility for the ATP movement of OMV into the work zone. Once inside within the work zone, the OMV shall be able to move as many times as possible in both the directions in ATP mode without the intervention from the OCC/SCR. The system shall protect the OMV from moving outside the work zone area in ATP mode unless a route is set by the Operator from OCC/SCR. | The requirement mentioned does not seems to be feasible. Request to delete the same.   | Refer Corrigendum 04  |

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| SN | Part                    | Section                   | Clause   | Original Bid condition   | Bidder's query   | CMRL Response   |
|----|-------------------------|---------------------------|----------|--|--|---|
| 27 | Part 2                  | Appendix 2P-12            | 4.1.9    | 4.1.9 The OMV contractor shall ensure that the OMV is designed for a maximum speed which provides a nonstop average speed of the OMV as a minimum 40 kmph. The signalling system shall control the OMV in such a way that the ATR regulates the recommended speed based on the Operational scenario.   | OMV is required to operate in GoA1 (ATP) with this ATR is also requested. This requirement does not seem to be feasible. Request to delete the same.   | Recommended speed in the signalling HMI based on the ATR shall be visible for the OMV operator to regulate the speed.<br>Refer Corrigendum 04   |
| 28 | Part 2<br>(Addendum 01) | Particular Specifications | 14.5.1.8 | The contractor shall ensure that transfer of technology to an Indian company is carried out before the commencement of the DLP of stage 1 to undertake the rectification of snags, modification of functionalities, refining the paramets etc for the ATO and ATS sub-system software. The Indian company shall undertake the modifications in the software of these systems in the commissioning stage and DLP periods. The service shall be available from this Indian company beyond completion of project, on payment basis, if the employer desires so. | For ATS, we agree to this clause. For ATO, we request you to amend the clause and remove the requirement for ATO.                                      | Bid condition (As in Addendum 01) prevails  |
| 29 | Part 2<br>(Addendum 01) | Appendix 2P-1             | 2.3.8.c) | In RM mode, When the Train Operator uses the Permissive Door Button (PDB), the PSD also shall Open and close along with train doors using the direct communication path designed for PSD Open/close commands from train borne signalling in a safe manner.   | In RM mode, Opening of train door and PSD both are manual and Signalling shall not be responsible for the same.  | In RM mode, the train operator shall have the facility to enforce door authorization from ATP by pressing the permissive door button (which is a vital input to train borne signalling).<br>At the time of PDB operation, if the train is physically present within the stopping window, then the PSDs shall follow the Open and close command provided by the train operator to the train door. This implementation may require a direct communication link from the train borne to the PSD Interface cabinet. |
| 30 | Part 2<br>(Addendum 01) | Particular Specifications | 5.14.2.4 | For those trains which has stopped in the designated stopping window, an emergency opening;/closing of the train door shall open and close the corresponding PSD.  | Please clarify this requirement, we talking about a train which has stopped in the stopping window? or a train has NOT stopped in the stopping window? | A train stopped physically in the stopping window, But because of any reason, the door authorization is not generated automatically by the system,<br>Remote opening of door from ATS is possible, which shall ensure that PSD also follows the train door commands.  |

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| SN | Part                    | Section                      | Clause  | Original Bid condition  | Bidder's query   | CMRL Response          |
|----|-------------------------|------------------------------|---------|---|--|------------------------|
| 31 | Part 2<br>(Addendum 01) | Particular<br>Specifications | 5.9.10. | Temporary speed restrictions shall be capable of being imposed over any track segment for a maximum track segment length of 200m. It shall be possible to apply TSR in multiple adjacent segments, if required. | We request to change this track segment to 250m instead of 200m  | Refer Corrigendum 04   |
| 32 | Part 2                  | Appendix 2P-1                | 2.4.20  | The Rolling Stock Contractor shall advise the Signalling and Train Control Contractor on the protocol of communication with the TCMS and the response time.   | As there are three rolling stock vendor, they may ask for different protocols. Hence we request you to allow Signalling to define the communication protocol and Network parameter instead of rolling stock. | Bid condition prevails |